

What is Claimed is:

1. A manufacturing method of a thin film magnetic head comprising following steps of:

preparing an upper magnetic core,

5 covering an end portion of said upper magnetic core with a non-magnetic protective film,

removing said non-magnetic protective film from an upper part until said upper magnetic core is exposed,

10 wherein a front end of a connection area in which said end portion is connected to a rear portion of said upper magnetic core is located between a face opposed to a medium and a position defining the gap depth.

2. A manufacturing method of a thin film magnetic head according to claim 1, wherein said non-magnetic protective film is removed by a polishing process or an
15 etch-back process using dry etching.

3. A manufacturing method of a thin film magnetic head according to claim 1, wherein said non-magnetic protective film is removed by using one or more kinds of gases selected from CF_4 , C_4H_8 , CH_3 , BCl_3 , Cl_2 , $SiCl_4$, Ne, Ar,
20 Kr, and Xe.